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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,263	11/03/2003	Darroll D. Bengtson	R11.12-0782	3685

27367 7590 02/24/2006

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EXAMINER
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THOMPSON, JEWEL VERGIE

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.		Applicant(s)	
	10/700,263		BENGTON, DARROLL D.	
	Examiner		Art Unit	
	Jewel V. Thompson		2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanimura et al (5,052,229) in view of Khalifa (4,841,781)

**Regarding claim 10,** Tanimura et al a vortex flow meter for installation

between pipe flanges of size N, comprising:

A. a vortex sensor assembly shaped to fit a standard sensor interface on a unitary flowtube (fig. 1);

B. a unitary flowtube (1) having the standard sensor interface, and a bore of size number (N-A) where A is an integer in the range 1,2 and having diameter expanders (fig. 1) coupling between the flowtube flanges (1a) and the bore (fig. 1); and

C. the unitary flow tube being formed as a unitary casting that is free of seams (fig. 1).

Tanimura et al fails to teach having upstream and downstream flowtube flanges of size.

Khalifa teaches a vortex flow meter having upstream flanges (1) and downstream flanges (1, fig. 1). It would have been obvious to one of ordinary skill in the art at the

time that the invention was made to have placed another flange in the downstream position as that of Khalifa in the flow meter of Tanimura et al for the purpose of being able to insert the flow meter in either side of the tubing.

**Regarding claims 11 and 16**, Tanimura et al teaches a flow conditioner (4) that comprises a plate perforated by multiple holes (fig. 8) that is part of the unitary casting (fig. 1).

**Regarding claims 12 and 17**, Tanimura et al teaches the plate has streamlined edges around the multiple holes (fig. 8).

**Regarding claims 13 and 18**, Tanimura et al fails to teach the flow conditioner comprises vanes having streamlined edges. Khalifa teaches a flow conditioner (figs. 3 and 5). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have used the conditioner with vanes of Khalifa in the flow meter of Tanimura et al for the purpose of providing the required amount of turbulence which is necessary to stimulate the sunken stream effect without harming the process of vortex formation in the case of a vortex flow meter (Khalifa, col. 4, lines 25-29)

**Regarding claim 15**, Tanimura et al teaches a vortex flowmeter for installation between pipe flanges of size N, comprising:

- A. a vortex sensor assembly shaped to fit a standard sensor interface on a unitary flowtube;
- B. a unitary flowtube having the standard sensor interface, and a bore of a size number at least as small as (N-1), and having diameter expanders coupling between the flowtube flanges and the bore; and

Art Unit: 2855

C. a flow conditioner of size number N across an opening in the upstream flange (fig. 1). Tanimura et al fails to teach having upstream and downstream flow tube flanges of size N. It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have placed another flange in the downstream position as that of Khalifa in the flow meter of Tanimura et al for the purpose of being able to insert the flow meter in either side of the tubing.

2. Claims 14, 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanimura et al in view of Khalifa as applied to claims 10 and 15 above, and further in view of Kleven (6,658,945).

**Regarding claims 14 and 19**, Tanimura et al in view of Khalifa fails to teach a measured calibration with the diameter expanders, and flanges in place stored in the vortex flowmeter. Kleven teaches a microprocessor which calculates a calibration faction (col. 6, lines 31-32). It would have been obvious to one of ordinary skill in the art at the time that the invention was made to have used the microprocessor of Kleven in the flow meter of Tanimura et al for the purpose of factoring the changes of the vortex sensor assembly (Kleven, col. 6, lines 31-34).

### ***Response to Arguments***

3. Applicant's arguments filed December 7, 2005 have been fully considered but they are not persuasive.

**Applicant argues** that neither Tanimura et al nor Khalifa teach or suggest " a vortex sensor shaped to fit a standard sensor interface on a unitary flow tube"

**Examiner disagrees.** Tanimura et al teach in col. 1, lines 6-9 that the present invention is used in an internal combustion engine of a vehicle or the like to measure the quantity of fluid. It would have been obvious that if it is taught that the flowmeter of the cited reference be used in a standard combustion engine that the flow meter used within the engine would be of a standard size.

**Applicant argues** that neither Tanimura et al nor Khalifa teach or suggest "upstream and downstream flow tube flanges of size N, and a bore of a size number at least as small as (N-1).

**Examiner disagrees.** Khalifa teaches a vortex flow meter having upstream and downstream flanges (N) and a bore size **at least** (N-1), which is smaller, which therefore does read upon the claim (N-1) as shown in fig. 1.

**Applicant argues** that neither Tanimura nor Khalifa teach multiple ranges for bore sizes.

**Examiner disagrees.** Khalifa teaches a flow rectifier positioned at the inlet of the conduit near the flange, comprising vanes, which can vary in size, therefore would vary the range of the bore size ( fig. 3).

Applicant argues Kleven does not teach "a measured calibration with the diameter expanders.. in place stored in the vortex"

Examiner disagrees. Kleven teaches a microprocessor (70) which calculates a calibration factor for the flow meter.

### **Conclusion**


4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jewel V. Thompson whose telephone number is 571-272-2189. The examiner can normally be reached on 7-4:30, off alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jvt

February 21, 2006